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Original Research

Evaluating Anxiety Levels in Patients Undergoing Septoplasty: A Prospective Assessment

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ABSTRACT:
Aim: The aim of this study was to evaluate anxiety levels in patients undergoing septoplasty, comparing preoperative and postoperative anxiety scores to identify the impact of surgery on psychological well-being. **Materials and Methods:** This prospective observational study included 50 patients scheduled for elective septoplasty at a tertiary care hospital. Inclusion criteria were adults aged 18-60 years with nasal septal deviation requiring correction. Patients with a history of psychiatric illness, prior nasal surgeries, or those using anxiolytic medications were excluded. Anxiety levels were assessed using the State-Trait Anxiety Inventory (STAI) at two time points: one day before surgery (preoperative) and on the day of discharge (postoperative). Demographic data were also collected, and statistical analysis was performed using SPSS version 21.0, with paired t-tests applied to compare anxiety scores. **Results:** The study included 50 patients, with the majority (40%) aged 31-45 years, and a slight male predominance (56%). The mean preoperative state anxiety score was 49.2 ± 6.8, significantly decreasing to 39.6 ± 7.1 postoperatively ($p < 0.001$). Similarly, the mean trait anxiety score reduced from 45.7 ± 5.9 preoperatively to 41.3 ± 6.2 postoperatively ($p < 0.001$). Most patients (92%) exhibited a decrease in state anxiety, and 84% showed a decrease in trait anxiety. Younger age (under 30 years) and female gender were significantly associated with higher preoperative anxiety levels. **Conclusion:** This study demonstrated a significant reduction in both state and trait anxiety levels following septoplasty. The findings highlight the psychological benefits of the procedure, with younger patients and females more likely to exhibit higher preoperative anxiety. Addressing anxiety through proper patient counseling can enhance both recovery and overall satisfaction.
Keywords: Septoplasty, Anxiety, State-Trait Anxiety Inventory, Preoperative, Postoperative, Psychological Impact

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INTRODUCTION

Septoplasty is one of the most commonly performed surgeries in the field of otolaryngology. It involves the correction of a deviated nasal septum, a condition that can lead to various functional problems such as nasal obstruction, chronic sinusitis, and difficulty breathing through the nose. While septoplasty is considered a routine and relatively safe surgical procedure, it is not without psychological implications. Patients often present with anxiety before undergoing surgery, which can be influenced by several factors including fear of surgery, potential complications, and concerns about recovery and postoperative outcomes. Anxiety in patients undergoing septoplasty is an important aspect that warrants attention, as it can affect both the perioperative experience and postoperative recovery. This study aims to evaluate the anxiety levels in patients undergoing septoplasty, considering both the preoperative and postoperative stages, and identifying factors that may influence these anxiety levels.[1]

Anxiety is a natural emotional response to stress or perceived threats, and it manifests both in physiological and psychological symptoms. For surgical patients, anxiety is often associated with the uncertainty of the surgical procedure, fear of pain, and concerns about potential complications. The anxiety levels of patients undergoing elective surgeries, such as septoplasty, are not always well understood. While some patients may experience minimal anxiety, others may show significant levels of distress, which can

influence their recovery process and their overall surgical outcome. Anxiety has been shown to affect a patient's perception of pain, their healing process, and the overall satisfaction with the surgical outcome.[2]

Septoplasty, like many elective surgeries, involves several stages in which anxiety may fluctuate. The preoperative stage is commonly associated with the highest levels of anxiety, as patients face uncertainty about the surgical procedure and potential risks. The fear of the unknown, combined with the anxiety of undergoing anesthesia and the surgical experience itself, can create significant emotional stress. Postoperative anxiety, on the other hand, is influenced by factors such as pain, recovery discomfort, and concerns about cosmetic outcomes, particularly in patients who are highly concerned about the appearance of their nose post-surgery.[3]

The assessment of anxiety in surgical patients is crucial for identifying individuals at higher risk of experiencing significant distress and for providing appropriate interventions to alleviate this anxiety. In the context of septoplasty, understanding the levels of preoperative and postoperative anxiety can help healthcare professionals better support their patients and improve the overall patient experience. Research has shown that high levels of preoperative anxiety can lead to increased postoperative pain and a longer recovery time. Addressing anxiety before surgery can improve outcomes by enhancing the patient's sense of control and reducing the likelihood of postoperative complications.[4]

Several tools are available to measure anxiety in patients undergoing surgery, and one of the most widely used is the State-Trait Anxiety Inventory (STAI). The STAI is a self-report questionnaire that assesses two distinct types of anxiety: state anxiety, which is the temporary feeling of nervousness or fear in response to a particular event (in this case, the surgery), and trait anxiety, which refers to a general tendency to experience anxiety more frequently or intensely in various situations. The STAI provides a reliable and validated means of evaluating the levels of anxiety both before and after surgery, allowing healthcare providers to monitor changes in anxiety levels and intervene when necessary.[5]

Research has demonstrated that the psychological impact of surgery extends beyond the physical recovery process. Anxiety levels before surgery can affect not only the emotional state of the patient but also their physiological responses. Studies suggest that patients with high preoperative anxiety may have a heightened perception of pain and a lower threshold for discomfort. Furthermore, these patients may experience longer recovery times and report a lower quality of life post-surgery. As a result, understanding and addressing anxiety before and after septoplasty is critical for improving patient outcomes.[6]

While septoplasty is a relatively low-risk procedure, patients may still experience varying degrees of anxiety based on individual factors. Previous research has shown that demographic variables, such as age, gender, and previous medical experiences, can influence anxiety levels. Younger patients, for example, may experience higher levels of anxiety due to their relative inexperience with medical procedures. Similarly, female patients have been found to report higher levels of preoperative anxiety compared to their male counterparts. Patients with a history of prior hospitalizations or surgeries may also experience different levels of anxiety, with some feeling more at ease with the surgical process and others experiencing heightened distress due to past negative experiences.[7]

In addition to demographic factors, the type and severity of the nasal condition may influence anxiety levels. Patients with more severe symptoms or those who are particularly bothered by their nasal obstruction may have higher expectations for the surgical outcome, leading to increased anxiety about the potential success or failure of the surgery. Similarly, patients who have high concerns about their postoperative appearance, particularly those undergoing septoplasty for cosmetic reasons, may experience increased anxiety about the aesthetic outcomes of the procedure.Postoperative anxiety is also influenced by factors such as the presence of postoperative pain, swelling, and the need for postoperative care. Patients may feel anxious about the discomfort they experience following surgery, particularly if they are required to use nasal packing or endure prolonged recovery periods. Managing postoperative expectations and providing adequate information about recovery can help alleviate some of this anxiety.[8]Given the importance of managing anxiety in surgical patients, it is essential to explore the factors that contribute to anxiety in patients undergoing septoplasty. This study aims to assess preoperative and postoperative anxiety levels in a cohort of patients undergoing septoplasty, utilizing standardized anxiety assessment tools such as the STAI. By examining these anxiety levels and identifying factors that contribute to heightened anxiety, healthcare providers can develop more effective strategies to mitigate anxiety and improve the overall patient experience. Addressing anxiety in the perioperative period has the potential to enhance surgical outcomes, reduce recovery times, and improve the quality of life for patients undergoing septoplasty.

MATERIALS AND METHODS

This prospective observational study was conducted to evaluate anxiety levels in patients undergoing septoplasty. A total of 50 patients scheduled for elective septoplasty at tertiary care hospital were enrolled after obtaining informed consent. Inclusion criteria consisted of adult patients aged 18 to 60 years with a diagnosis of nasal septal deviation requiring surgical correction, who were physically and mentally capable of completing the anxiety assessment tools. Patients with a history of psychiatric illness, previous

nasal surgeries, use of anxiolytic medications, or those unwilling to participate were excluded from the study.

All enrolled patients underwent a preoperative evaluation, which included a detailed medical history, physical examination, and routine pre-anesthetic investigations. To assess anxiety levels, the State-Trait Anxiety Inventory (STAI) was administered at two time points: one day prior to surgery (preoperative anxiety) and on the day of discharge (postoperative anxiety). The STAI is a validated self-report questionnaire that measures both state anxiety (temporary condition) and trait anxiety (general tendency). Each patient completed the questionnaire in a quiet environment, with assistance provided if necessary to ensure understanding of the items.

Surgical procedures were performed under general anesthesia by experienced ENT surgeons following standardized operative protocols. Postoperative care included routine analgesia, nasal packing management, and patient counseling. No intraoperative or postoperative sedative medications known to affect anxiety were used during the study period to avoid bias in anxiety measurement.

Demographic data, including age, gender, education level, and history of previous hospitalizations or surgeries, were recorded. STAI scores were compared between preoperative and postoperative periods to evaluate changes in anxiety levels. Statistical analysis was carried out using SPSS version 21.0. Descriptive statistics were used to summarize patient characteristics. Paired t-tests (or Wilcoxon signed-rank test if data were not normally distributed) were employed to assess the significance of differences in anxiety scores. A p-value of <0.05 was considered statistically significant.

RESULTS

A total of 50 patients undergoing septoplasty were included in the study. The demographic characteristics of the participants are presented in Table 1. The majority of patients (40%) were in the 31–45 year age group, followed by 36% in the 18–30 year group, and 24% aged between 46–60 years. There was a slight male predominance, with 56% (n=28) of the participants being male and 44% (n=22) female. In terms of educational background, 40% had completed secondary education, 36% had graduate or postgraduate degrees, and 24% had only primary education. Additionally, 72% of the patients (n=36) had no prior history of hospitalization, while the remaining 28% (n=14) had been previously hospitalized.

Table 2 shows the comparison of State and Trait Anxiety scores before and after the surgery using the STAI tool. The mean preoperative state anxiety score was 49.2 ± 6.8, which significantly decreased to 39.6 ± 7.1 postoperatively ($p < 0.001$). Similarly, the mean trait anxiety score before surgery was 45.7 ± 5.9, which also reduced significantly to 41.3 ± 6.2 on discharge ($p < 0.001$). These findings indicate a statistically significant reduction in both state and trait anxiety levels following septoplasty.

Changes in anxiety scores at the individual level are summarized in Table 3. Among the 50 patients, 46 (92%) showed a decrease in state anxiety scores postoperatively, while 2 patients (4%) had an increase and 2 (4%) showed no change. Regarding trait anxiety, 42 patients (84%) exhibited a decrease, 5 patients (10%) experienced an increase, and 3 patients (6%) had no change. These results highlight that most patients benefited from the procedure not only in terms of nasal obstruction relief but also in terms of reduced psychological distress.

The association between selected demographic variables and high preoperative state anxiety (defined as a score >45) is illustrated in Table 4. Out of the 28 patients who experienced high preoperative anxiety, a significant number (n=12, 42.8%) were aged below 30 years ($p = 0.03$). Similarly, female patients were more likely to exhibit higher preoperative anxiety levels, with 15 out of 22 females (68.1%) falling in the high anxiety category ($p = 0.04$). No statistically significant association was found between prior hospitalization and preoperative anxiety ($p = 0.25$), suggesting that past medical experiences did not notably influence anxiety levels in this cohort.

Table 1: Demographic Characteristics of Study Participants (n = 50)

Variable	Frequency (n)	Percentage (%)
Age Group (years)		
18–30	18	36%
31–45	20	40%
46–60	12	24%
Gender		
Male	28	56%
Female	22	44%
Education Level		
Primary	12	24%
Secondary	20	40%
Graduate/Postgraduate	18	36%
Previous Hospitalization		
Yes	14	28%
No	36	72%

Table 2: Preoperative and Postoperative STAI Scores (n = 50)

Anxiety Type	Time Point	Mean ± SD	p-value
State Anxiety	Preoperative	49.2 ± 6.8	
	Postoperative	39.6 ± 7.1	< 0.001*
Trait Anxiety	Preoperative	45.7 ± 5.9	
	Postoperative	41.3 ± 6.2	< 0.001*

*Statistically significant

Table 3: Change in STAI Scores Before and After Septoplasty

STAI Type	Increased	Decreased	No Change	Total Patients
State Anxiety	2	46	2	50
Trait Anxiety	5	42	3	50

Table 4: Association Between Demographics and Preoperative Anxiety (State Anxiety > 45)

Demographic Variable	High Anxiety (n=28)	Low Anxiety (n=22)	p-value
Age < 30 years	12	6	0.03*
Female Gender	15	7	0.04*
No prior hospitalization	20	16	0.25

DISCUSSION

The present study demonstrated a significant reduction in both state and trait anxiety levels among patients undergoing septoplasty, with 92% of patients showing decreased postoperative state anxiety and 84% showing decreased trait anxiety. These findings are consistent with those reported by Bugten et al. (2010), who observed a significant improvement in psychological well-being and quality of life following nasal septal surgery, noting that patients often experience reduced anxiety due to relief from long-term nasal obstruction and associated symptoms. In their study, patients also reported improved sleep and breathing, which may contribute indirectly to better mental health outcomes.[9]

Our results also highlighted that younger patients (especially those under 30 years) were more prone to higher preoperative anxiety. This aligns with the findings of Caumo et al. (2001), who found that younger age was a predictive factor for heightened preoperative anxiety across various elective surgeries. In the current study, 42.8% of patients with high anxiety were under 30 years old, suggesting that younger individuals may have a heightened emotional response to surgical procedures, potentially due to less experience with medical interventions.[10]

Gender-based differences in anxiety were also evident in this study, where 68.1% of female participants demonstrated high preoperative anxiety compared to 31.9% of males. This observation mirrors the results of Mavridou et al. (2013), who reported that female patients consistently scored higher on anxiety scales prior to surgical procedures. Their explanation attributes this trend to sociocultural and hormonal factors that may contribute to increased emotional responsiveness in women.[11]

Regarding changes in anxiety levels postoperatively, the significant reduction observed in our study corresponds with the results of Wormald et al. (2003), who noted that functional nasal surgeries, including septoplasty, not only address physical symptoms but also yield positive psychological outcomes. Their study reported a 30–40% improvement in anxiety-related quality of life indicators following surgical correction, which is comparable to the 20–25% reduction in mean STAI scores seen in our sample.[12]

An interesting finding in our analysis was the lack of association between previous hospitalization and anxiety levels. Only 28% of participants had prior hospital exposure, and this was not statistically linked to reduced anxiety. This contrasts with the findings by Mitchell (2008), who argued that prior medical experiences, particularly negative ones, can lead to increased anxiety in future hospital encounters. The discrepancy might be explained by the relatively minor and elective nature of septoplasty, which may not provoke the same level of psychological distress as more invasive or emergency procedures.[13]

Finally, the use of the STAI tool in assessing surgical anxiety is well-validated and was appropriately applied in our study design. Similar methodological use was reported by Kindler et al. (2000), who emphasized the STAI's sensitivity in capturing both temporary (state) and stable (trait) anxiety traits in surgical patients. Their findings also showed a statistically significant postoperative reduction in STAI scores, supporting the reliability of this tool in capturing meaningful psychological changes.[14]

CONCLUSION

In conclusion, this study highlights a significant reduction in both state and trait anxiety levels in patients undergoing septoplasty, demonstrating the psychological benefits of the surgical procedure beyond its physical outcomes. The findings suggest that the majority of patients experience decreased anxiety postoperatively, with younger age and female gender being associated with higher preoperative anxiety levels. Addressing anxiety before and after surgery through proper patient counseling and support can enhance recovery and overall satisfaction.

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